

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended) A coronary stent having a longitudinal axis along the length of the stent comprising:

a. a first loop containing section having loops, said first loop containing section ~~extending in the circumferential direction~~ having an axis orthogonal to the longitudinal axis of the stent, the loops in said first loop containing section occurring at a first frequency;

b. a second loop containing section having loops, said second loop containing section ~~extending in the circumferential direction~~ having an axis orthogonal to the longitudinal axis of the stent, the loops in said second loop containing section also occurring at said first frequency;

c. ~~at least one of said first and second loop containing sections~~ each ~~formed of a single, continuous, generally sinusoidal pattern~~ around the entire circumference of the stent; and

d. a third loop containing section, said third loop containing section formed of a single, continuous, generally sinusoidal pattern also ~~extending in a continuous band of loops around the circumference of the stent~~ having an axis orthogonal to the longitudinal axis of the stent and, the loops in said third loop containing section occurring at a second frequency that is higher than said first frequency, ~~each~~ said third loop containing section disposed in the generally circumferential space between each of said first and second loop containing sections to form consecutive repeating patterns along the longitudinal axis of the stent for at least two repetitions and alternately joined to said first and second loop containing sections forming a uniform pattern of flexible cells;

e. the loops in said first, second and third loop containing sections being disposed and adapted to cooperate so that, components of said third loop containing section contribute to the cell's elongating or shortening when the stent is flexed; and

f. the loops of the first, second, and third loop containing sections further include struts having a thickness in the radial direction and width in the circumferential direction, wherein the struts of the first and second loop containing sections are wider than the width of the struts of the third loop containing section.

Claim 2 (canceled)

Claim 3 (previously presented) A stent according to claim 1, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the wall of a lumen.

Claim 4-5 (canceled)

Claim 6 (currently amended) A coronary stent comprising:

a. a plurality of first circumferential bands band, each formed of a single, continuous, generally sinusoidal pattern of loops at a first frequency having a single axis extending around the entire circumference of the stent;

b. a plurality of second circumferential bands band, each containing formed of a single, continuous, generally sinusoidal pattern of loops, said second band having an axis parallel to the axis of the first band, and said loops occurring at a second frequency higher than said first frequency, said second circumferential band extending in a continuous band pattern of loops around the entire circumference of the stent, each said first circumferential band alternating with each said second circumferential band to form consecutive patterns along the longitudinal axis of the stent for at least two repetitions, said second bands periodically coupled to said first bands to form cells;

c. patterns of loops in said bands being disposed and adapted to cooperate so that second circumferential bands contribute more than first circumferential bands to deformation during flexing of the stent; and

d. the loops of the first, and second bands further include struts having a thickness in the radial direction and width in the circumferential direction,

wherein the struts of the first bands are wider than the width of the struts of the second bands.

Claim 7 (canceled)

Claim 8 (previously presented) A stent according to claim 6, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the wall of a lumen.

Claims 9-10 (canceled)

Claim 11 (currently amended) A coronary stent consisting essentially of a plurality of triangular cells, each triangular cell comprising 3 functional loop sections and including formed from adjacent circumferential bands, each band parallel to the circumferential axis of the stent and extending around the entire circumference of the stent, each triangular cell consisting essentially of three functional loop containing sections:

a. a first loop containing section, the first loop containing section extending in the circumferential direction having loops, said loops occurring at a first frequency, said loop containing section having a first end and a second end defined by connection points to non-adjacent circumferential bands;

b. a second loop containing section connected to the first loop containing section at a first junction end having loops, said loops occurring at said first frequency, said second loop containing section having a first end and a second end defined by connection points to non-adjacent circumferential bands; and

c. a third loop containing section having loops connected to the first loop containing section on one end and connected to the second loop containing section at on its other end, the first and second loop containing sections forming before expansion a first continuous generally sinusoidal pattern at a first frequency and the third loop containing section forming a second single, continuous generally sinusoidal pattern at a second frequency lower than the first frequency, said first and second sinusoidal patterns consecutively alternating for at least two repetitions along the longitudinal axis of the stent;

and the loops in one second sinusoidal pattern are 180° out of phase with loops in the adjacent second sinusoidal patterns along a longitudinal axis of the stent, said loops occurring at a second frequency lower than the first frequency, said third loop containing section having a first end and a second end defined by connection points to said first loop containing section and said second loop containing section;

d. wherein loops in said cells are disposed and adapted to cooperate so that, components of the third loop containing section contribute to the cell's elongating or shortening when the stent is flexed resulting in a substantially constant stent cell area on the inside and outside of the curve wherein said first end of said first loop containing section is connected to said second end of said second loop containing section, said first end of said second loop containing section is connected to said first end of said third loop containing section, and said second end of said third loop containing section is connected to said second end of said first loop containing section; and

e. the loops of the first, and second sinusoidal patterns further include struts having a thickness in the radial direction and width in the circumferential direction, wherein the struts of the second sinusoidal patterns are wider than the width of the struts of the first sinusoidal patterns wherein the third loop containing section has wider loops than the loops of the first and second loop containing section.

Claims 12-25 (canceled)

Claim 26 (currently amended) An expandable coronary stent consisting essentially of a uniform pattern of flexible uniform cells, each of the cells consisting essentially of:

- a. a first member having a first end and a second end;
- b. a second member having a first end and a second end;
- c. a third member having a first end and a second end;
- d. a fourth member having a first end and a second end; the first end of the first member communicating with the first end of the second member, the second end of the second member communicating with the second end of the third member, and the first end of the third member communicating with the first end of the fourth member;

e. the first member and the second member with the curved portion at their first ends forming a first loop;

f. the third member and the fourth member with the curved portion at their first ends forming a second loop, the first, second, third and fourth members forming a portion of a first circumferential band;

g. a fifth member having a first end and a second end;

h. a sixth member having a first end and a second end;

i. a seventh member having a first end and a second end;

j. an eighth member having a first end and a second end;

k. a ninth member having a first end and a second end; and

l. a tenth member having a first end and a second end, the first end of the fifth member communicating with the second end of the first member, the second end of the fifth member communicating with the second end of the sixth member, the first end of the sixth member communicating with the first end of the seventh member, the second end of the seventh member communicating with the second end of the eighth member, the first end of the eighth member communicating with the first end of the ninth member, the second end of the ninth member communicating with the second end of the tenth member, and the first end of the tenth member communicating with the second end of the fourth member;

m. the fifth member and the sixth member with the curved portion at their ends forming a third loop;

n. the seventh member and the eighth member with the curved portion at their ends forming a fourth loop; and

o. the ninth member and the tenth member with the curved portion at their ends forming a fifth loop,

said fifth, sixth, seventh, eighth, ninth and tenth members forming a portion of a second circumferential band disposed in the generally circumferential space between each of the first and second circumferential bands to form a pattern that repeats at least two consecutive repetitions along the longitudinal axis of the stent, wherein each first and each second circumferential band is a single, continuous generally sinusoidal pattern

extending in the circumferential direction and the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, and tenth members form a uniform pattern of flexible cells; and

p. the first, second, third and fourth members having a thickness in the radial direction and width in the circumferential direction, wherein the first, second, third and fourth members are wider than the width of the fifth, sixth, seventh, eighth, ninth and tenth members.

Claim 27 (canceled)

Claim 28 (currently amended) A stent according to claim ~~28~~26, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the wall of a lumen.

Claims 29-41 (canceled)

Claim 42 (previously presented) A stent according to claim 1, wherein the loops in the first loop containing sections are all in phase.

Claim 43 (previously presented). A stent according to claim 1, wherein, upon expansion, the cells on the outside of a curved section of the stent become narrower as the cells elongate, and cells inside of a curve become wider as the cells shorten.

Claim 44 (previously presented). A stent according to claim 6, wherein, upon expansion, the cells on the outside of a curved section of the stent become narrower as the cells elongate, and cells inside of a curve become wider as the cells shorten.

Claim 45 (previously presented). A stent according to claim 1, wherein said first loop containing section is formed of a single continuous, generally sinusoidal pattern.

Claim 46 (previously presented). The stent according to claim 1, wherein said second loop containing section is formed of a single continuous, generally sinusoidal pattern.

Claim 47 (previously presented). The stent according to claim 1, wherein each of said first loop containing sections and second loop containing sections are formed of a single continuous, generally sinusoidal pattern.

Claim 48 (canceled)

Claim 49 (currently amended). A coronary stent having a longitudinal axis along the length of the stent comprising in both the unexpanded and expanded state:

- a. a first loop containing section, said first loop containing section extending in the circumferential direction having an axis perpendicular to the longitudinal axis of the stent, the loops in said first loop containing section occurring at a first frequency;
- b. a second loop containing section, said second loop containing section extending in the circumferential direction having an axis perpendicular to the longitudinal axis of the stent, the loops in said second loop containing section also occurring at said first frequency, said second loop containing section being 180° out of phase with said first loop containing section along the longitudinal axis of the stent;
- c. at least one of said first and second loop containing sections formed of a single, continuous, generally sinusoidal pattern; and
- d. a third loop containing section, said third loop containing section formed of a single, continuous, generally sinusoidal pattern extending in a continuous band of loops around the entire circumference of the stent, the loops in said third loop containing section occurring at a second frequency that is higher than said first frequency, said loops in said second circumferential band ~~extending in a continuous band of loops around the circumference of the stent~~ having an axis parallel to the axis of the first and second loop containing sections, said third loop containing section disposed in the generally circumferential space between each of said first and second loop containing sections to form consecutively repeating patterns along the longitudinal axis of the stent for at least two repetitions and alternately joined to said first and second loop containing sections, said first, second and third loop containing sections forming a uniform pattern of ~~flexible~~ uniform cells; and

e. the loops of the first, second, and third loop containing sections further include struts having a thickness in the radial direction and width in the circumferential direction, wherein the struts of the first and second loop containing sections are wider than the struts of the third loop containing section.